

DoD PLAN FOR THE CERTIFICATION OF PESTICIDE APPLICATORS

September 1996

Deputy Under Secretary of Defense for Environmental Security

FOREWORD

This Plan is issued under the authority of DoD Instruction 4150.7, "DoD Pest Management Program," April 22, 1996. It replaces the "Department of Defense Plan for the Certification of Pesticide Applicators of Restricted Use Pesticides," December 8, 1985. This Plan prescribes procedures for DoD certification of pesticide applicators.

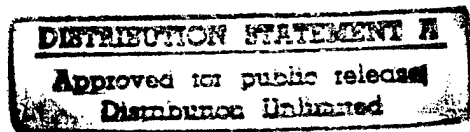
This Plan applies to the Office of the Secretary of Defense (OSD), the Military Departments (including the Coast Guard when it is operating as a Military Service in the Navy), the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Inspector General of the Department of Defense, the Defense Agencies, and the DoD Field Activities, including any other integral DoD organizational entity or instrumentality established to perform a governmental function (hereafter referred to collectively as "the DoD Components")

This Plan is effective immediately and is mandatory for use by all the DoD Components. The Heads of the DoD Components may issue supplementary instructions only when necessary to provide unique requirements within their organizations.

Send recommended changes to the Plan to:

Deputy Under Secretary of Defense (Environmental Security)
Office of the Under Secretary of Defense for Acquisition and Technology
3400 Defense Pentagon
Washington, DC 20301-3400

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/SIGNED/

Deputy Under Secretary of Defense
(Environmental Security)

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REFERENCES

- (a) Sections 136-136y of title 7, United States Code, "Federal Insecticide, Fungicide, and Rodenticide Act"
- (b) "Department of Defense Plan for the Certification of Pesticide Applicators of Restricted Use Pesticides," December 8, 1985 (hereby canceled)
- (c) Title 40, Code of Federal Regulations, Part 171, "Certification of Pesticide Applicators"
- (d) Federal Register, Volume 42, page 41097, August 19, 1977
- (e) DoD Instruction 4150.7, "Department of Defense Pest Management Program," April 22, 1996
- (f) Executive Order 12088, "Federal Compliance with Pollution Control Standards," October 13, 1978.
- (g) Federal Information Resources Management Regulation (FIFMR) 201-9.202-2, "Interagency Reports

Management Program"

(h) DoD 8910.1-M, "DoD Procedures for Management of Information Requirements," November 1986, authorized by DoD Directive 8910.1, June 11, 1993

(i) Sections 6901 to 6922k of title 42, United States Code, "Resource Conservation Recovery Act"

(j) Sections 301 to 395 of title 21, United States Code, "Food, Drug, and Cosmetic Act"

(k) Sections 1251 to 1387 of title 33, United States Code, "Clean Water Act"

(l) Sections 300f to 300j-26 of title 42, United States Code, "Safe Drinking Water Act"

(m) Sections 703 to 711 of title 16, United States Code, "Migratory Bird Treaty Act"

(n) Section 135 to title 7, United States Code, "Federal Environmental Pesticide Control Act"

DEFINITIONS

1. Certifying Official. DoD pest management consultants designated, in writing, by the DoD Components to the Executive Director, Armed Forces Pest Management Board (AFPMB), who review and certify that qualifications of DoD pesticide applicators meet the DoD standards in this Plan.

2. Chemigation. Application of fertilizers or pesticides to soil or plants through an irrigation system.

3. Direct Supervision. Supervision that includes being at the specific location where pest management work is conducted; providing instruction and control; and maintaining a line-of-sight view of the work performed. Certain circumstances may temporarily remove the line-of-sight view of the application of pesticide from the supervisor such as topographic constraints, vegetation constraints, or building structural constraints. Under these temporary circumstances, the supervisor shall be responsible for the actions of pesticide applicators. Direct supervision is required by a certified applicator during the application of restricted-use or state limited-use pesticides by a non-certified applicator during apprenticeship for certification. See Uncertified Installation Pesticide Applicator, definition 8.e. below.

4. DoD Employee. Federal employees of the Department of Defense, to include members of the State National Guard when activated for Federal duty. For purposes of this plan, the term does not include employees involved in civil works functions of the Army Corps of Engineers.

5. DoD Pest Management Program. A single, comprehensive program that encompasses all pest management activities of the Department of Defense.

6. Integrated Pest Management (IPM). A planned program, incorporating continuous monitoring, education, record-keeping, and communication to prevent pests and disease vectors from causing unacceptable damage to operations, people, property, materiel, or the environment. IPM uses targeted, sustainable (effective, economical, environmentally sound) methods including education, habitat modification, biological control, genetic control, cultural control, mechanical control, physical control, regulatory control, and where necessary, the judicious use of least-hazardous pesticides.

7. Pesticide. Any substance or mixture of substances, including biological control agents, that may prevent, destroy, repel, or mitigate pests and are specifically labeled for use by the U.S. Environmental Protection Agency (EPA). Also any substance or mixture of substances used as a plant regulator, defoliant, desiccant, disinfectant, or biocide. (See Restricted-Use Pesticide, definition 12, below.) Note: The AFPMB does not review or approve disinfectants or biocides. See Restricted Use Pesticides, definition 12., below.

8. Pesticide Applicator. Any individual who applies pesticides or supervises the use of any pesticide by others.

a. Certified Pesticide Applicator. Any individual who applies pesticides or supervises the use of pesticides, and who has been authorized to do so by successfully completing a training program approved by the EPA followed by formal certification by the Department of Defense or a State.

b. DoD-Certified Pesticide Applicator. Military or civilian personnel certified in accordance with this Plan, and certified in the category in which a pesticide will be applied.

c. Installation Pesticide Applicator. DoD employees or contract personnel whose job responsibilities involve the application of pesticides on DoD installations and property.

d. State-Certified Pesticide Applicator. Persons certified in accordance with 7 U. S. C. 136 (reference (a)) by a State with an EPA-approved certification plan and certified in the category in which a pesticide will be applied.

e. Uncertified Installation Pesticide Applicator. DoD employees who are not certified under the Department of Defense or State plan during an apprenticeship period not exceeding 2 years and who must apply pesticides under the supervision of a DoD-, or State-certified applicator.

9. Pest Management Consultant. Professional DoD pest management personnel located at DoD Component Headquarters, field operating agencies, major commands, facilities engineering field divisions or activities, or area support activities, who provide technical and management guidance for the conduct of installation pest management operations. Some pest management consultants may be designated by the DoD Components as certifying officials.

10. Pests. Arthropods, birds, rodents, nematodes, fungi, bacteria, viruses, algae, snails, marine borers, snakes, weeds, and other organisms (except for human or animal disease-causing organisms) that adversely affect readiness, military operations, or the well-being of personnel and animals; attack or damage real property, supplies, equipment, or vegetation; or are otherwise undesirable.

11. Professional Pest Management Personnel. DoD Military officers commissioned in the Medical Service or Biomedical Sciences Corps or DoD civilian personnel with college degrees in biological or agricultural sciences who are in a current assignment that includes pest management responsibilities exercised regularly. DoD civilian employees also shall meet Office of Personnel Management qualification standards. Based on assignment position, some professional pest management personnel are pest management consultants.

12. Restricted-Use Pesticide. A pesticide that the Administrator of the EPA, in accordance with 7 U.S.C. 136 (reference (a)), or a State regulatory agency determines to have the potential to cause unreasonable adverse effects on the environment or human health, when applied in accordance with its directions for use, and therefore, requires additional regulatory restrictions.

13. State. Any one of the 50 United States of America, the District of Columbia, the Commonwealths of Puerto Rico, the Northern Marianas, and the Virgin Islands, and the Territories of Guam and American Samoa.

ACRONYMS

AFPMB	Armed Forces Pest Management Board
CFR	Code of Federal Regulations
DoD	Department of Defense
EPA	U.S. Environmental Protection Agency
FEPCA	Federal Environmental Pesticide Control Act
FIFRA	Federal Insecticide, Fungicide, and Rotenticide Act
IPM	Itegrated Pest Management
OSD	Office of the Secretary of Defense
PPMP	Professional Pest Management Professional
ULV	Ultra Low Volume

CHAPTER 1

GENERAL INFORMATION

A. PURPOSE

This Plan:

1. Replaces the "Department Of Defense Plan For Certification Of Applicators Of Restricted Use Pesticides" (reference (b)), approved by the Administrator of the U.S. EPA on December 8, 1985.
2. Updates procedures to train and certify DoD pesticide applicators. The Department of Defense will continue to recognize as certified pesticide applicators those DoD employees who were certified under the previous plan. Recertification, as required of previously certified applicators, will be in accordance with applicable provisions of this Plan. Certification for new categories and subcategories will be granted only upon completion of training, demonstration of competency and testing requirements.

B. BACKGROUND

The Federal Insecticide, Fungicide, and Rodenticide Act (reference (a)) directs the EPA Administrator to prescribe standards for the certification of pesticide applicators. Regulations implementing this requirement, at 40 C.F.R. Part 171 (reference (c)), require that Federal agency applicators of restricted

use pesticides obtain certification under an appropriate EPA approved Certification Plan. See 42 FR 41097 (reference (d)).

CHAPTER 2

COMPLIANCE WITH CODE OF FEDERAL REGULATIONS (CFR)

40 CFR 171(reference (c))

A. DEPARTMENTAL RESPONSIBILITY, Section 171.7(a) of reference (c)

1. DoD Program Responsibility

a. The Office of the Secretary of Defense (OSD), as lead agency, shall have overall responsibility for policy development, implementation, and surveillance of the DoD Pest Management Program (reference (e)). The address of the lead agency is: Office of the Secretary of Defense, Under Secretary of Defense (Acquisitions and Technology), Washington, DC 20301-4000.

b. The AFPMB, chartered by the lead agency, reviews policy matters and proposes policy changes for the Department of Defense (reference (e)). The address is: Armed Forces Pest Management Board, ATTN: Executive Director, Forest Glen Section, Walter Reed Army Medical Center (WRAMC), Washington, DC, 20307-5001, Telephone: (301) 295-7476.

2. Applicability

a. This document is the agency plan for the Department of Defense and applies to DoD employees applying any pesticides on DoD land or property under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (reference(a)) jurisdiction. In the infrequent instances when DoD employees will be applying pesticides on other property, they will work under the supervision of appropriately certified State or Federal personnel. Terms used in this Plan that are unique to the military pest management program are defined in the definitions section.

b. This Plan does not apply to pesticide applicators working under the purview of the civil works functions of the Department of the Army, facilities occupied by Component activities when real property control is under another Component or Government agency, and State-owned and State-operated (funded) installations or facilities that the National Guard uses part-time or full time.

3. Adherence to State Certification Standards

a. The Department of Defense cooperates with individual States by adhering to substantive standards that meet or exceed those established by the State or EPA. If a given State's substantive standard is more stringent than, or is additional to, standards established in this Plan, the State should notify the Department of Defense and request compliance in accordance with E.O. 12088 (reference (f)) and this Plan. Upon notification by the State of a substantive standard issue, the Department of Defense will attempt to mediate the issue with the State. If the Department of Defense is unable to reach an agreement with the State, the Department of Defense will immediately forward all such notifications to EPA, who will render its opinion as to whether the standard is substantive or administrative in nature. The EPA administrator may mediate conflicts or cases of disagreement between the Department of Defense and a State.

b. Commercial firms that contract to apply pesticides for the DoD Components are not DoD

pesticide applicator employees. They may be trained by but may not be certified by the Department of Defense. All contractor pesticide applicators must be certified by the appropriate regulatory authority under the provisions of EPA- approved plans.

c. The Department of Defense will record and report instances of pesticide misuse and falsification of records by contractors to the appropriate certifying EPA or State agencies. The Department of Defense will cooperate with a State or EPA in any subsequent investigation or actions.

d. The Components Responsibility

(1) Each Component, except the Joint Chiefs of Staff and the Combatant Commands, shall designate a senior pest management consultant as the primary point of contact for the Component=s pest management training program under DoD Instruction 4150.7 (reference (e)).

(2) Each Component=s senior pest management consultant, except the Joint Chiefs of Staff and the Combatant Commands, shall nominate pest management consultants to serve as certifying officials to certify the competency of the Component=s pesticide applicators (reference (e)). Component nominee=s qualifications shall be formally reviewed and if qualified, approved and acknowledged by the Executive Director of the AFPMB.

B. LEGAL AUTHORITY, Section 171.7(b)(1) of 40 CFR (reference (c))

1. DoD Authority

In accordance with FIFRA (reference (a)), 40 C.F.R. Part 171 (reference (c)), and 42 FR 41907-41908 (reference (d)), the Secretary of Defense may submit to EPA for approval, a Plan for the certification of DoD employees as applicators of restricted use pesticides. Once this certification Plan is approved by EPA, DoD employees certified in accordance with the Plan may, without obtaining any additional State certification, use and supervise the use of restricted use pesticides while engaged in the performance of their official duties.

2. Implementing Regulations

a. Department of Defense

DoD Instruction 4150.7 dated April 22, 1996 (reference (e))
Department of Defense Pest Management Program

b. Department of the Army and Defense Logistics Agency

Army Regulation 420-76 dated December 15, 1986
Facilities Engineering Pest Management Program

c. Air Force Regulation 91-22/Army Regulation 40-574, dated April 26, 1976
Aerial Dispersal of Pesticides

d. Department of the Navy

OPNAV Instruction 6250.4A dated November 28, 1990
Pest Management Programs

e. Department of the Air Force

Air Force Instruction 32-1053 dated May 10, 1994
Pest Management Program

C. DENYING, SUSPENDING AND REVOKING CERTIFICATION: Enforcement, Section 171.7(b)(1)(iii)(A) of 40 CFR (reference (c))

OSD or the DoD Components may deny, suspend, or revoke the certificate of any DoD employee who violates any provision of FIFRA (reference (a)) or falsifies records under this Plan. Situations that may be cause for certificate denial, suspension or revocation include, but are not limited to:

1. Misuse of a pesticide:
2. The falsification of any records required to be maintained by the certified applicator;
3. Pending investigation of pesticide-related episodes or accidents resulting in human or animal injury or environmental contamination, such as to water supplies, food and foodstuffs;
4. Conviction under any Federal or State pesticide or environmental law;
5. Failure to maintain records as required by Federal or State statute or DoD and Component regulations;
6. Failure to comply with DoD and Component pest management directives or regulations;
7. Failure to use appropriate safety equipment as identified by the pesticide label;
8. Inability to perform work in a safe manner due to incompetence, carelessness or physical or mental deficiency; and
9. Pending outcome of criminal or civil action. (See subsections C.1. through 8., above.)

D. SUSPENSION OR REVOCATION OF CERTIFICATION: Legal Authority, Section 171.7(b)(1)(iii)(B) of reference (c)

Installation commanders shall initiate a formal review if FIFRA (reference (a)) violations are suspected. Any certified applicator who violates any provision of reference (a), as amended, or the implementing regulations will have his or her certificate reviewed for possible suspension or revocation. Suspected violations, such as pesticide misuse or recorded falsification, shall be reported through appropriate command channels to the office of the certifying official. The certifying official shall review the suspected violation and determine if further action is required. If no action is warranted, the installation commander shall be notified in writing that a review of the suspected violation has been conducted and that it has been determined that a violation of reference (a) has not occurred. If the certifying official determines that a violation may have occurred, he or she shall initiate action to temporarily suspend the certificate of the applicator(s) and forward the matter to the lead agency, Under Secretary for Defense (Acquisition and Technology (USD (A&T))) for review and final action. If the lead agency determines that a violation of reference (a) has occurred, that agency shall report information on the case and action taken by the Department of Defense to the EPA Administrator.

E. RIGHT OF ENTRY BY CONSENT OR WARRANT: Right of Entry, Section 171.7(b)(1)(iii)(C) of 40 CFR (reference (c))

DoD certifying officials have the authority to observe actual operations and any other aspect of the program at installation levels.

In addition, the Department of Defense will cooperate with appropriate agents or certifying officials (Federal or State) to admit such officials to DoD installations, consistent with national security requirements, to ensure compliance with Federal and State pesticide laws. Federal or State officials should contact installation commanders to arrange visits and to ensure that any national security concerns are addressed before the visit. It is DoD policy that requests be accommodated as expeditiously as possible. The installation commander shall designate a point of contact to accompany visiting officials to ensure that they have access to appropriate areas of interest.

F. LEGAL REQUIREMENT: Unlawful Use of Pesticides, Section 171.7(b)(1)(iii)(D) of reference (c)

It is unlawful for persons other than certified applicators or persons working under their direct supervision, as defined in this plan, to use restricted use pesticides. The applicator or direct supervisor must be certified for the category of pesticide application being undertaken. Similarly, contract pesticide applicators shall be certified in, or work under the direct supervision of personnel certified in, State categories commensurate with the work to be performed. Contract specifications shall require that an appropriately certified individual be physically present on the DoD installation during contractor restricted use pesticide applications.

G. RECORD KEEPING: Pest Management Reporting Requirements, Section 171.7(b)(1)(iii)(E) of reference (c)

Record keeping and reporting procedures provide management personnel an opportunity to review the pesticide data on operations, to include pesticide names, EPA registration Number, amounts, methods of application, uses, places (sites), dates and other pertinent information (such as the target pests). Each military installation performing pest management operations prepares and submits to the appropriate organization on a quarterly or more frequent basis, a detailed record, DD Form 1532, "Pest Management Report" and shall retain a DD Form 1532-1, "Pest Management Maintenance Record" in accordance with standardized DoD procedures. Such operational records shall be maintained by the installation and/or public works engineer at the installation for no less than two years and shall be available through the installation commanding officer to appropriate Federal and State officials upon request. After two years, these records shall be archived for permanent retention.

H. QUALIFIED PERSONNEL TO CARRY OUT THE PLAN, Section 171.7(b)(2) of 40 CFR (reference (c))

The AFPMB and the senior consultants of the DoD Components, including civilian and military pest management consultants, supervisors, and certified applicators shall provide technical guidance for the DoD pest management program. For purposes of determining applicable requirements, DoD pest control supervisory and applicator personnel are considered "commercial applicators" as defined in Section 2(e)(3) of FIFRA (reference (a)). The Department of Defense does not employ personnel that meet the FIFRA definition of "private applicator".

I. FUNDING, Section 171.7(c) of reference (c)

The DoD Components shall plan, program, and budget for this Plan in accordance with DoD Instruction 4150.7 (reference (e)).

J. TRAINING AND CERTIFICATION REPORTS, Section 171.7(e) of reference (c)

The AFPMB shall prepare an annual report on training and certification under the DoD Plan and shall submit the report to the EPA Administrator. The report will contain information outlined in 40 CFR 171.7(d) (reference (c)) and may include other information required by the Administrator. This report has been cleared in accordance with FIRMR 210-9.202-2 (reference (g)). The related DoD internal report required by 40 CFR 171.1(d) (reference (c)) and further described in DoD Instruction 4150.7 (reference (e)) has been assigned DoD internal report control symbol DD-A&T(A&R)1080 in accordance with DoD 8910.1-M (reference (h)). The report will be submitted by March 31 each year and provide information on activities during the previous fiscal year.

K. CERTIFICATION CATEGORIES, Section 171.3 of reference (c)

1. The Department of Defense adopts and offers certification in the following EPA pest control categories to meet the specific requirements for DoD pesticide use:

Pest Control Category	EPA/DoD Category
Forest Pest Control	2
Ornamental & Truf Pest Control	3
Aquatic Pest Control	5
Right-of-Way Pest Control	6
Industrial, Institutional, Structural and Health-Related Pest Control	7
Public Health Pest Control	8
Demonstration and Research Pest Control	10

2. In addition, the Department of Defense retains DoD Category 11- Aerial Application. This category includes individuals using or supervising the use of aerial application of pesticides to control pests having medical and public health importance or general agricultural, forest, aquatic, or Right-of-Way application requirements.

Aerial Application Pest Control 11

3. The following three new pest control subcategories have been added.

SUBCATEGORY - Soil Fumigation Pest Control 3a

This subcategory includes individuals using or supervising the use of soil fumigants to control pests in the maintenance and production of ornamental trees, shrubs, flowers and turf.

SUBCATEGORY - Grassland and Non-Crop Agricultural Land Pest Control 6a

This subcategory includes individuals using or supervising the use of pesticides on grassland and non-crop agricultural land.

SUBGATEGORY - Stored Products Fumigation Pest Control 7a

This subcategory includes individuals using or supervising the use of fumigants to control pests in the maintenance, production and storage of stored products.

L. COMPETENCY AND CERTIFICATION, Section 171.7(e)(1)(I)(C & D) of 40 CFR (reference (c))

1. Requirements

a. DoD employees desiring certification in any of the DoD categories must complete a mandatory core training program as well as training in the applicable DoD pest control category (ies), as described in 40 CFR 171.4 (b) and (c)(reference (c)) and Appendix A of this Plan

b. Written and performance testing will be conducted for the core phase (general standards) and categories (specific standards) in which training and certification is desired. Satisfactory completion of training courses, satisfactory performance on written examinations, and demonstration of the ability to perform applicable procedures and/or use appropriate dispersal equipment qualifies an individual for certification.

c. Professional pest management personnel are not required to undergo Formal or Apprenticeship training but shall demonstrate competency by written examination as outlined in subsection D.4. of Chapter 3 of this Plan if certification is required.

d. The Department of Defense has adopted the standards of competency required under Section 171.4 of 40 CFR (reference (c)). DoD standards may exceed those stated in Sections 171.4(b), (c) and 171.6 of reference (c) and as indicated in Appendix A.

2. Core Competency Standards

The Department of Defense adopts EPA Core Competency standards in Sections 171.4 (a) and (b) of reference (c). DoD-certified applicators shall demonstrate practical knowledge of the principles and practices of integrated pest management and safe use of pesticides. Testing shall be based on examples of problems and situations appropriate to the particular category or subcategory of the applicator's certification. See Appendices A and B. Successful passage of a comprehensive examination covering the following core general areas is prerequisite for certification in specific categories:

a. Recognizing common pests to be controlled and damage caused by them, including:

- (1) Common features of pest organisms and characteristics of damage/traces needed for pest recognition;
- (2) Recognition of relevant pests; and
- (3) Pest development and biology as may be relevant to problem identification and control.

b. Label and labeling comprehension, including:

- (1) Requirement and/or necessity for use consistent with label;
- (2) General format of labels and labeling;
- (3) Understanding of product vs. chemical and common names, signal words and symbols, and precautionary statements commonly appearing on label and/or labeling;
- (4) Classification of product (general use vs. restricted use);
- (5) Protective clothing and equipment requirements;
- (6) Environmental hazard statements;
- (7) Preharvest or reentry restrictions;
- (8) Storage and disposal instructions;
- (9) When to read different sections of label and/or labeling; and
- (10) Directions for use section:
 - (a) Crop and/or animal and/or site.
 - (b) Dosage instructions.
 - (c) Timing and methods of application.

(d) Mixing directions (if applicable).

(e) Pests to be controlled.

c. Recognizing local environmental situations that must be considered during application to avoid contamination, including:

(1) Weather factors that affect pesticide application and why;

(2) Factors that affect drift;

(3) Factors that affect runoff and other aquatic contamination (including formulation, site, amount of pesticide, soil type, rainfall, drainage, buffer zones, direct application to waterways); and

(4) Presence of wildlife, bees, aquatic areas, and other non-target areas.

d. Recognizing poisoning symptoms and procedures to follow in case of a pesticide accident, including:

(1) Signs and symptoms of pesticide poisoning; and

(2) First aid (including recognition of pertinent information on label) and other procedures to be followed in case of a pesticide accident;

e. Storage of pesticides and containers, including:

(1) Appropriate storage facility characteristics;

(2) Storage facilities supplies; and

(3) Proper storage and identification of pesticide containers.

f. Disposal of pesticides, containers and rinseates, including:

(1) Proper methods of disposing of excess pesticides;

(2) Proper methods of disposing of pesticide rinseates;

(3) Proper methods of disposing of used pesticide containers; and

(4) Consequences of improper disposal (including health, environmental and legal precautions).

g. Legal responsibility, Laws and Regulations (and Liability information), including:

(1) Pertinent State and/or Federal pesticide laws and regulations not previously discussed;

(2) Types of situations in which applicator could be held liable;

(3) Liability and/or penalties for failure to follow information on labels and/or labeling and other laws and regulations;

(4) The need for record keeping and how to keep records; and

(5) Other Federal laws that affect pesticide applicators (such as the Resource Conservation Recovery Act (reference (I)), the Federal Food and Drug Cosmetic Act (reference (j)), the Clean Water Act (reference (k)), Safe Drinking Water Act (reference (l)) and Migratory Bird Treaty Act (reference (m))).

h. Safety, including:

- (1) Acute toxicity;
- (2) Chronic effects;
- (3) Concept of accumulative effects;
- (4) Concept that risk is a function of both toxicity and exposure;
- (5) Common routes of pesticide exposure (oral, dermal and inhalation);
- (6) Protective clothing and equipment (including body covering, goggles, aprons, gloves, hat, foot coverings, goggles and/or face shields, and respirators);
- (7) Care and maintenance of protective clothing and equipment;
- (8) Personal hygiene;
- (9) Proper mixing and/or loading of concentrated pesticides; and
- (10) Closed handling systems.

i. Reentry and worker protection, including:

- (1) Definition and importance of reentry intervals;
- (2) Types of reentry intervals;
- (3) Warnings to workers and reentry intervals;
- (4) Content of warning to workers;
- (5) Early reentry; and
- (6) Other worker protection rules.

j. Pesticides, including:

- (1) Types of pesticides;
- (2) Choosing the correct pesticide;
- (3) Typical formulations (characteristics, advantages, disadvantages, main uses);
- (4) Pesticide compatibility;
- (5) Adjuvant;
- (6) Surfactants; and
- (7) Factors that influence effectiveness or lead to such problems as resistance to

pesticides.

k. Pest Control Strategies - Integrated Pest Management factors such as:

- (1) Insect and other arthropod pests;
 - (a) Insect control strategies; and
 - (b) Importance of accurate pest identification and timing in the pest's life cycle to control strategies.
- (2) Plant disease pests:
 - (a) Plant disease control strategies;
 - (b) Types of control strategies; and
 - (c) Importance of timing in weed control strategy.
- (3) Weeds:
 - (a) Weed control strategies; and
 - (b) Importance of timing in weed control strategy.
- (4) Mollusk control strategies (if applicable); and
- (5) Vertebrate control strategies.

l. Application equipment, factors such as:

- (1) Typical agricultural pesticide spray equipment (characteristics, advantages, disadvantages, and main uses);
- (2) Nozzle patterns and materials;
- (3) Sprayer selection, use and care;
- (4) Granular applicators (characteristics, advantages, disadvantages, main uses, selection, use and care);
- (5) Chemigation equipment (characteristics, advantages, disadvantages, main uses, selection, use and care); and
- (6) Cleanup of equipment after use.

m. Calibration, factors such as:

- (1) Mixing soluble and wettable powders;
- (2) Mixing liquid concentrate formulations;
- (3) Determining size of area to be treated;
- (4) Considerations before calibration of sprayer;
- (5) Selecting nozzle tips;

- (6) Adjusting nozzle output;
 - (7) Swath width and how to calibrate it;
 - (8) Field calibration of sprayers; and
 - (9) Calibration of granular applicators (if applicable).
- n. Proper transportation of pesticides.
- o. Groundwater Protection, factors such as:
- (1) Nature of groundwater;
 - (2) Factors that affect groundwater contamination;
 - (3) Local groundwater conditions; and
 - (4) Applicator practices that impact on groundwater contamination.
- p. Endangered Species Protection, factors such as;
- (1) Endangered Species Act;
 - (2) Concept of habitat;
 - (3) Understanding and using County Bulletins and/or County Extension Service Bulletins; and
 - (4) Ways pesticides may harm endangered species.
- q. Responsibility of applicators to use pesticides properly to protect such products for future use and supervision responsibilities of certified applicators.

3. Competency Examinations, Section 171.7(e)(1)(I)(C&D) of 40 CFR (reference (c))

- a. **Written Requirements.** A closed book written examination will be required to determine competency in general and applicable specific standards outlined in Section 171.4 of reference (c), and Appendix A of this Plan, for each category of certification. Testing shall be based on examples of problems and situations appropriate to the particular category or subcategory of the applicator's certification and areas of competency outlined in the general and specific standards of competency. Examinations may include true-false, multiple choice, completion, and problem type questions and will require a passing score of at least 70%. Sample examination questions are shown in Appendix B.
- b. **Performance Requirements.** Performance testing shall be conducted for the core phase (general standards) and the categories (specific standards) in which training and certification is desired. Satisfactory completion of training courses, written examinations and demonstration of the ability to perform a procedure or use appropriate dispersal equipment qualifies an individual for certification. Upon qualification of an individual, the training center will notify the appropriate pest management consultant (certifying official) that the individual completed formal training requirements for certification in designated categories, as described in section D. of Chapter 3 of this Plan.

M. PROCEDURES FOR ISSUING CERTIFICATES OF COMPETENCY, Section 171.7(e)(2) of 40 CFR (reference (c))

Personnel successfully completing certification requirements for the core and one or more of the pest control categories shall be issued a DD Form 1826, "Certificate of Competency," 8 2" X 11" and a DD 1826-1, "Pesticide Applicator," wallet size card (see Appendix C). Certificates shall be issued to pest management personnel by the appropriate certifying official. To identify certified personnel, a uniform numbering system shall be used in the issue of certificates. See Appendix E.

N. MAINTENANCE OF THE PLAN, Section 171.8(a) of reference (c)

1. Installation pest management plans shall include provisions to ensure that certified pesticide applicators comply with standards for the use of restricted use pesticides and carry out their responsibility to provide adequate supervision of non-certified applicators. Such plans shall also specify pest control program standards and shall be reviewed and approved by pest management consultants annually under DoD Instruction 4150.7 (reference (e)). All pesticide applications and other pest management functions are periodically reviewed for compliance with the installation's pest management plan. Use of DoD-certified pesticide applicators, or State-certified pesticide applicators in the case of contract operations, is a mandatory requirement for each installation pest management plan.

2. Every three years, DoD-Certified applicators must attend a DoD pest management recertification training course and take and pass written category tests to maintain DoD certification. The certifying official may extend an individual's certification for cause; e.g., illness, family emergency, unscheduled military deployment, on a one time basis for a period of not more than six months. Recertification training is conducted to meet the requirements of changing technology and to assure a continuing level of competency and ability to use pesticides safely and properly.

CHAPTER 3

DoD PESTICIDE APPLICATOR CERTIFICATION PROGRAM

The Department of Defense provides developmental training for previously untrained and inexperienced personnel who embark on a pesticide application training program not to exceed two years. The training program consists of three requirements: correspondence training, apprenticeship training, and formal classroom training at the DoD Component's approved training center (s). During the training period, trainees shall perform restricted use pesticide application only under the direction of a certified pesticide applicator. Written examinations are required for correspondence and formal classroom training to achieve certification.

A. Training and Certification Procedures

1. Correspondence Training. Within 6 months of assignment as a trainee, the individual should be enrolled in an AFPMB-approved correspondence training course.

2. Apprenticeship Integrated Pest Management Training

Trainees shall participate in apprenticeship training under the supervision of a DoD-certified individual or, if not available, under the guidance of a pest management professional, for at least one year.

3. Formal Classroom Training

Formal classroom training obtained through one of the DoD Component training centers is required. Normally, it will be accomplished immediately following successful completion of the correspondence training. Correspondence training may not be substituted for formal training

except as provided for in subsections D.1., D.3., D.4., and D.5. below.

Formal classroom training may be requested at Outside Continental United States (OCONUS) sites under FIFRA (reference (a)) jurisdiction when it would be more cost effective to the Department of Defense.

a. The Training Centers are:

U. S. Army AMEDD Center and School
ATTN: MCCS-PM
Fort Sam Houston, TX 78234-6142

Navy Disease Vector Ecology and Control Center
19950 Seventh Avenue, NE, Suite 201
Poulsbo, WA 98370-7045

Navy Disease Vector Ecology and Control Center
Naval Air Station, Box 43
Jacksonville, FL 32212-0043

366 Training Squadron
727 Missile Road
Sheppard AFB, TX 76311-2254

910 AG/DOS (Category 11 only)
3976 King Graves Road
Youngstown-Warren Regional Airport
Air Reserve Station, Vienna, OH 44473-0910

b. Course Content. The core phase, which provides basic information common to all pesticide applicators, is a prerequisite for all trainees to advance to training in specific standards for the DoD pest control categories. Training centers may group category courses to facilitate training and specialization. They may also address the categories listed in section K. of Chapter 2, and other pest control categories as separate blocks of instruction if this is more convenient. Appendix D provides information and subject area of the Services training schools course curricula.

c. Written Examinations. Written examinations, prepared by training centers of the respective DoD Components, will be based upon course content and study materials made available to applicators. The actual number of examination questions for each subject shall be directly related to the instructional hours and subject complexity, but three questions per lecture hour (see Appendix D) will be a minimum used by all the training centers. Separate examinations shall be given for the core section and each category section. (Sample examination questions are included in Appendix B).

d. Passing Scores. Training centers shall provide the appropriate certifying official with the individual's written examination test score (s). A grade of at least 70% on every examination is passing. During the core phase, the training center shall disenroll from the course any individual who fails to score 50% or less and shall notify the individual's installation level commanding officer, the appropriate certifying official, and the major command pest management consultant that the individual shall not be considered a certified pesticide applicator and shall not be allowed to apply restricted use pesticides unless under the direct supervision of a certified pesticide applicator.

e. Re-examination. Individuals who score between 50% and 70% will be allowed to continue with category training and to retake the examination(s) failed. Personnel with scores between 50% and 70% may attempt an immediate re-examination (at the discretion of the course director and the

individual's supervisor) or may take up to 90 days to restudy and undergo re-examination. Re-examination may be administered by the educational center supporting the individual's installation. A second failure will result in a recommendation by the training center to the command consultant and/or area pest management professional to remove the individual from pest control duties.

f. Training centers providing training for personnel from other Services shall forward those results to the respective component certifying official.

B. Procedures for Recertification

1. Triennial recertification training and testing is mandatory to maintain DoD certification. This training shall be accomplished through attendance at an approved DoD course. In addition to the training centers listed in paragraph A.3.a, above, the Naval Facilities Engineering Command Headquarters and the Center for Health Promotion and Preventive Medicine-Europe are Recertification Training Centers. During these courses, new information is provided to update the knowledge of the students and to review safety procedures. A secondary requirement of these courses is to re-evaluate the students' level of competency in pest control through written examinations and on-the-job performance. Since it is the objective of the Department of Defense to maintain a fully trained pest control force, the courses shall be made available to all certified applicators.

2. Certification is valid for three years from the date of certification issuance. Recertification shall be accomplished by the last day of the month in which the original certificate expires. The certifying official may extend an individual's certification for cause: e.g. illness, family emergency, unscheduled military deployment, on a one time basis for a period of not more than six months. To be recertified, the individual must:

a. Attend a DoD-approved recertification course using as a minimum the AFPMB standardized curricula (Appendix D).

b. Take and pass a written examination with a score of at least 70% on the core to include calculations and/or calibration and all category examinations for which recertification is required.

c. An individual failing a recertification examination may be given up to 90 days from the date on which the examination was failed to study appropriate materials. At the end of the study period, the pest management instructor or the installation training officer shall administer a closed-book make-up examination. A second failure will result in the individual not being certified in the category(s) failed. Successful completion of the resident basic training course shall be the only method of obtaining certification in a category failed twice. In either case, failure in the recertification examination shall be cause for certificate revocation and for recommendation for removal from pest control functions. Documentation of failures shall be forwarded to the command pest management consultant for action.

3. Applicator recertification courses shall be consistent with the requirements of Appendix D. Personnel attending recertification courses shall only be allowed to test and qualify in those categories for which they already hold initial certification. New category training must be achieved as outlined in paragraphs A.3.b. through A.3.e., above. Additional contact hours may be added at the discretion of the local training sponsor.

C. Procedures for Accelerated Certification

1. An accelerated process for obtaining DoD Certification is available to those individuals holding valid State certification for the categories in which they are seeking DoD employment.

Qualified individuals should apply for certification as follows:

- a. Be able to document a minimum of one year of experience in pest control; and
 - b. Present evidence of prior State certification, valid within the last calendar year, or present documentation verifying previous DoD certification, valid within the previous five calendar years; and
 - c. Was not employed as a DoD pesticide applicator within the past calendar year.
2. To achieve DoD certification, individuals who qualify for the accelerated program must complete the following two elements, or re-enter the normal training process at a commensurate level.
- a. Correspondence course. Candidates begin with a two-week review of the correspondence course training material and pass a final written closed-book examination.
 - b. Core and category examination. Upon successful passage of the first element, the candidate is permitted up to 90 days to study training materials provided from a Service school before taking and passing the DoD standard examination for pesticide applicators.

D. Procedures for Certification of Professional Pest Management Personnel

1. In accordance with DoD Instruction 4150.7 (reference (e)), professional pest management personnel (PPMP) shall be certified if their duties include:
 - a. Applying, making recommendations for the use of or the direct supervision of restricted use pesticide application; or
 - b. The public demonstration of the proper use and techniques of restricted use pesticide application or supervision of such demonstrations; or
 - c. The conduct of field research that includes using or supervising the use of restricted use pesticides.
2. For other PPMPs, certification is optional. The DoD Components shall issue certificates of competency for their PPMP's requiring certification.
3. PPMPs may obtain core training and certification in specific pest control categories by successfully passing a written examination following completion of either a DoD correspondence course or DoD formal training.
 - a. PPMPs must attend the resident DoD Aerial Spray Course for initial certification in Category 11, Aerial Application Pest Control. For Aerial Application Pest Control, PPMPs must recertify in residence every other recertification period.
 - b. PPMPs may forward a letter of request to the appropriate DoD Component certifying official, stating the individual's professional experience, formal training, and category and/or categories in which certification is desired. Upon determination of eligibility, the Component's certifying official shall request the respective Service training center forward study materials to the requesting individual and closed-book examinations for monitoring by the appropriate education Service office.
4. Individuals must score at least 70% to be certified. If an individual does not meet this criterion, he or she must request permission from the Component's certifying official to retake any examination(s) failed and will be given up to 90 days from the date of failure to do so. A second failure shall prevent the individual from being certified in that category without additional formal resident training. The respective service school shall send examination score(s) and

recommendations for certification to the Component Certifying Official, who will prepare a DD Form 1826 and DD Form 1826-1 and forward them to the requesting individual's commanding officer for signature and presentation.

5. Recertification is required triennially, either by attendance at a formal course or through correspondence using the same procedures described in paragraph D.3.b., above.

6. The Executive Director, AFPMB shall certify Component certifying officials who require pesticide applicator certification. Procedures for certification are similar to paragraph A.3.c-e., above, except that requests for certification and test results will be sent to the Executive Director, AFPMB.

E. Certification Documents

1. DoD certificates (see Appendix C) shall be issued for specific pest control categories to pesticide applicators who successfully complete the required training. See Appendix A. DoD-certified pest control supervisors may be issued these certificates with a notation of this supervisory status.

2. Procedures for issuing DoD certificates for pesticide applicators are given in Appendix E.

APPENDIX A

DoD CATEGORY CERTIFICATION STANDARDS

The Department of Defense adopts and uses the same designation for EPA Pest Control Categories 2 - Forest Pest Control, 3- Ornamental and Turf Pest Control, 5- Aquatic Pest Control, 6- Right-of-Way, 7- Institutional, Structural, and Health-Related Pest Control, 8- Public Health Pest Control and 10 Demonstration Pest Control as described in 40 CFR 171.3 (reference (c)). The Department of Defense has retained an additional category, 11 - Aerial Application Pest Control and added three subcategories, 3a - Soil Fumigation, a - Grassland and Non-Crop Agricultural Land Pest Control and 7a - Stored Products Fumigation. DoD employees desiring certification must demonstrate competency in specific standards as described in Section 171.4(c) of reference (c). Additional standards of competency required by the Department of Defense are described below.

Categories:

2. Forest Pest Control. Individuals to be certified in this category must successfully complete the core phase. They must attend a training program and pass a written examination covering, but not limited to, the following areas: forest management practices, fertilization programs, plant biology, physiology and pathology, classification and mode of action of pesticides, biology and control of forest pests, and natural resources utilization.

3. Ornamental and Turf Pest Control. Individuals to be certified in this category must successfully complete the core phase. They must attend a training program and pass a written examination covering, but not limited to, the following areas: vegetation and turf management practices, fertilization programs, plant biology and physiology, classification and mode of action of herbicides, biology and control of ornamental and turf pests and diseases, weed control, and natural resources conservation programs.

3a. Soil Fumigation Pest Control. Individuals to be certified in this category must successfully complete the core phase and category 3 training. They must complete training and pass a written examination covering soil fumigation. This training will include, but not be limited to, fumigation, protective equipment for fumigation and general safety procedures, including posting, reentry and aeration, supervisory responsibilities, and application techniques appropriate to various situations.

5. Aquatic Pest Control. Individuals to be certified in this category must successfully complete the core phase. They must attend a training program and pass a written examination covering, but not limited to, the following areas: plant biology and physiology, identification and control of aquatic weeds, classification and mode of action of herbicides, and natural resources conservation programs. This category excludes applicators engaged in public health related activities. Such applicators will be covered in Public Health Pest Control.

6. Right-of-Way Pest Control. Individuals to be certified in this category must successfully complete the core phase. They must attend a training program and pass a written examination covering, but not limited to, the following areas: plant biology and physiology, identification and control of weeds, classification and mode of action of herbicides, and natural resources conservation programs.

6a. Grassland and Non-Crop Agricultural Land Pest Control. Individuals to be certified in this category must successfully complete the core phase. They must attend a training program and pass a written examination covering, but not limited to, the following areas: plant biology and physiology, identification and control of weeds, classification and mode of action of herbicides, and natural resources conservation programs as applicable to Grassland and Non-Crop Agricultural Land.

7. Industrial, Institutional, Structural, and Health-Related Pest Control. Individuals to be certified in this category must successfully complete the core phase. They must attend a training program and pass a written examination covering, but not limited to, the following areas: biology, identification and control of common household pests, control of vertebrate pests, control of wood destroying organisms, biology and control of termites, biology and control of stored product pests, and fumigation procedures.

7a. Stored Product Fumigation Pest Control. Individuals to be certified in this category must successfully complete the core phase and category 7 training. They must attend a training program and pass a written examination covering the fumigation of stored subsistence and other commodities. This training will include, but not be limited to, fumigation, use of personal protective equipment for fumigation and general safety procedures, including posting, monitoring, reentry and aeration, and application techniques appropriate to various situations.

8. Public Health Pest Control. Individuals to be certified in this category must successfully complete the core phase. They must attend a training program and pass a written examination covering, but not limited to, the following areas: biology, identification and control of vectors and pests of medical importance, identification and handling of venomous animals, and control of vertebrate disease reservoirs, including rodent control techniques.

10. Demonstration and Research Pest Control: Individuals to be certified in this category must possess at least a bachelor's degree in entomology or a related discipline. Professional pest management personnel may qualify for this category by being certified in all appropriate DoD certification categories and passing written examinations for both the core and the Demonstration and Research category. Professional pest management personnel certified in this category may function as consultants only in categories in which they are certified. They will have proven that they are particularly knowledgeable in methods of pest management, and will have demonstrated competence in safe and effective use of pesticides. They must understand pesticide-organism interactions and recognize the importance of integrating pesticide use with other control measures in effective pest management programs. They will have demonstrated superior knowledge of pesticide regulations to include: pesticide registration, experimental use permits, registration to meet special or local needs (as defined in 40 CFR (reference (c))), emergency registration of pesticides, and procedures for cancellation, suspension, and rebuttable presumption. They should also exhibit knowledge of demonstration and research procedures, and the responsibilities and liabilities incumbent with individuals certified in this category.

11. Aerial Application Pest Control. Individuals certified in this category must successfully complete the core and appropriate category(s) training. They must complete a training program and pass a written examination that covers the following areas: general principles, meteorological aspects, legal aspects, environmental aspects, DoD spray systems and aircraft, aerial spray math, aerial spray maps, contingency operations, spray system calibration, swath characterization, pesticides and pesticide safety, and aerial spray in the military.

APPENDIX B

Sample Examination Questions from Pesticide Applicator Certification Examinations

GENERAL STANDARDS TEST FOR ALL CATEGORIES CORE

Use the enclosed RESTRICTED USE PESTICIDE Label for questions 1-3

1. All registered pesticides have a statement on the label reading:
 - A. Danger - Poison
 - B. Toxic to Bees
 - C. Warning - Toxic
 - D. Keep out of Reach of Children
2. What is the acute oral toxicity (LD50) of this product which is indicated by the signal word?
 - A. 0-50 mg/kg
 - B. 50-500 mg/kg
 - C. 500-5,000 mg/kg
 - D. Greater than 5,000 mg/kg
3. From the label, which of the below is NOT a target pest?
 - A. Fleas
 - B. Silverfish
 - C. Honeybees
 - D. Subterranean termites
4. If it is determined that a pesticide treatment is necessary, then the applicator should select a pesticide that will:
 - A. Kill all insects in target area
 - B. Remain active for many years
 - C. Be effective while harming the environment least
 - D. Do all of the above
5. Pesticides must be repackaged if containers are leaking. Which of the following must be put on the new container?
 - A. Sign signifying type of poison
 - B. Complete label
 - C. Sign with name and percent of pesticide

- D. Sign with word "danger" and name of pesticide
6. Which kind of pesticide prevents normal clotting of blood?
- A. Surfactant
 - B. Synergist
 - C. Anticoagulant
 - D. Animal systemic
7. A pesticide that is absorbed in one part of a plant or animal and transported to another part where it kills a pest is called a:
- A. Contact pesticide
 - B. Volatile pesticide
 - C. Residual pesticide
 - D. Systemic pesticide
8. What action should be taken in the event the hose disconnects from a pressurized hand-operated compressed air sprayer?
- A. Force the hose back on the assembly
 - B. Open the tank and release the pressure
 - C. Run away from the tank
 - D. Invert the tank (bottom side up)
9. To spray weeds using a hydraulic sprayer, what type of nozzle and pressure do you need?
- A. Coarse nozzle and high pressure
 - B. Coarse nozzle and low pressure
 - C. Fine nozzle and high pressure
 - D. Fine nozzle and low pressure
10. If the label says to mix two pounds wettable powder (WP) per 100 gallons of water and you have a 300 gallon tank, how many pounds of WP would you put in a full tank of water?
- A. 2 lbs. B. 6 lbs. C. 12 lbs. D. 15 lbs.

CATEGORY 3

ORNAMENTAL AND TURF PEST CONTROL

1. When spraying near human habitations you should minimize the hazard of spray drift to humans, pets, and other domestic animals by reducing:
- A. Pressure
 - B. Volume
 - C. Vehicle speed
 - D. Diameter of nozzle openings
2. If you find circles or arcs of dark-green grass with mushrooms around the outer edge, surrounding areas of light-colored or dead grass, what would you suspect?
- A. Dollar spot
 - B. Rotting roots or wood under turf

- C. Fairy ring
- D. Cottony blight

3. Small, sometimes immobile insects with sucking mouthparts and often with waxy body coverings are:

- A. Spider mites
- B. Scale insects
- C. Thrips
- D. Sowbugs

4. Mole damage to turf areas can be sharply reduced by:

- A. Daily watering
- B. Soil tilling
- C. Elimination of food insects
- D. Soil compaction

5. The recommended dosage of an insecticide for control of chinch bugs is 3 fluid ounces per 25 gallons of water on 1,000 sq ft of turf. How much insecticide is needed to treat 67,000 sq ft of turf?

- A. 21 ounces
- B. 102 ounces
- C. 181 ounces
- D. 201 ounces

CATEGORY 5

AQUATIC PEST CONTROL

1. Water hyacinth is an example of a (an):

- A. Emerged weed
- B. Submerged weed
- C. Free floating weed
- D. Floating but rooted weed

2. The most effective and extensively used herbicide for algae control is:

- A. 2, 4-D
- B. Dalapon
- C. Copper Sulfate
- D. Silvex

3. The first step in controlling weeds growing in drainage ditches is to:

- A. Select proper herbicide
- B. Identify the weed problem
- C. Calculate amount of herbicide required
- D. Determine the area to be sprayed

4. To control coontails, you are to apply Aquathol Plus^R at the rate of 1 gallon per acre foot. You determine that the surface area is 20 acres and the lake average depth is 12 feet. How many gallons of Aquathol Plus do you need?

- A. 1.6

- B. 16
- C. 240
- D. 320

5. Silvex may still be used to control aquatic weeds.

- A. True
- B. False

CATEGORY 6

RIGHT-OF-WAY PEST CONTROL

1. Insecticidal and herbicidal equipment should not be interchanged primarily to protect the:

- A. Public
- B. Operator
- C. Environment
- D. Desirable plants

2. If a standard rate of 2 pounds acid equivalent (AE) per acre is given, how much 2, 4-D mine salt product is needed if the product contains 4 pounds AE/gallon?

- A. 0.5 gallons
- B. 1.0 gallons
- C. 2.0 gallons
- D. 10 gallons

3. Contact herbicides are most effective against perennial plants.

- A. True
- B. False

4. Sometimes the taste of plants is improved as a result of herbicide spraying. This presents a danger primarily to:

- A. The operator
- B. Children
- C. Livestock
- D. Desirable vegetation

5. Irrigation ditches and potable water supplies should be protected from persistent herbicides such as picloram by:

- A. Using a mist machine
- B. Aerial applications
- C. Winter applications
- D. Leaving a buffer zone

CATEGORY 7

INDUSTRIAL, INSTITUTIONAL, STRUCTURAL

AND HEALTH-RELATED PEST CONTROL

1. The domestic rodent that is most dependent on humans and is the most common is the:
 - A. Roof rat
 - B. Norway rat
 - C. Prairie dog
 - D. Ground squirrel
2. Which cockroaches are commonly found in sewer lines and in damp and dirty basements?
 - A. Oriental and American cockroaches
 - B. German and Brown-banded cockroaches
 - C. Brown and Australian cockroaches
 - D. Smoky-brown and Oriental cockroaches
3. The most important factor in the control of cockroaches is:
 - A. Selection of the proper dispersal equipment
 - B. Correct timing of applications
 - C. Sanitation
 - D. Selection of the correct insecticide
4. Which one of the following conditions is most conducive to attack by subterranean termites?
 - A. Substructural ventilation
 - B. Dampness of the soil in the sub-areas
 - C. Wood in direct contact with soil
 - D. Untreated wood resting on concrete slabs
5. The spider having a red hourglass on the underside of the abdomen is the:
 - A. Tarantula
 - B. Wolf spider
 - C. Brown recluse spider
 - D. Black widow spider
6. A stack of infested flour is 20 feet long, 30 feet wide and 4 feet high, and the label directions call for the use of Phostoxin^R pellets at an application rate of 150 pellets per 1,000 cubic ft. How many pellets will you need?
 - A. 90
 - B. 150
 - C. 300
 - D. 360
7. Effective control of cat or dog fleas can only be achieved if:
 - A. The outside and underside of the house are treated
 - B. The animals and premises are treated at the same time
 - C. Outdoor residual treatment is carried out
 - D. The animals are sprayed or dipped with the proper insecticide

CATEGORY 8

PUBLIC HEALTH PEST CONTROL

1. Which one of the below listed diseases is transmitted to man through infected bird droppings?
 - A. Typhus fever
 - B. Arthropod-borne encephalitis
 - C. Histoplasmosis
 - D. All of the above
2. The vector responsible for the transmission of plague and murine typhus is the:
 - A. Mongolian foot louse
 - B. German cockroach
 - C. Oriental rat flea
 - D. House mouse mite
3. In a plague endemic area your initial control measures should be directed against the:
 - A. Rodents
 - B. Wild birds
 - C. Ectoparasites
 - D. Endoparasites
4. Why should an insecticide dust be used in a rodent control program?
 - A. To kill the fleas carried by rats
 - B. To increase the rat killing power of poisoned baits
 - C. Many insecticides are effective rodent killers
 - D. Dusts are more toxic to fleas
5. The primary consideration in housefly control is:
 - A. Residual spray
 - B. Use of aerosols
 - C. Sanitation
 - D. Malathion sugar baits
6. The most important disease transmitted by mosquitoes in the United States is:
 - A. Plague
 - B. Encephalitis
 - C. Malaria
 - D. Dog heartworm
7. Which of the following possible control methods would be the proper choice for efficient mosquito control in a pond used for recreational fishing and boating?
 - A. Standing water should be eliminated by drainage or filling
 - B. Pond should be stocked with mosquito feeding fish
 - C. Ultra Low Volume (ULV) application should be made on a weekly basis
 - D. Mosquito larvicides should be applied on biweekly basis
8. If you are sent to the housing area on post to control Aedes aegypti, the yellow fever mosquito, which of the following techniques would be most effective?
 - A. Ditching and filling breeding sites

- B. ULV spraying of the area
- C. Emptying and removing artificial containers
- D. Dusting the breeding sites

CATEGORY 10

RESEARCH AND DEMONSTRATION PEST CONTROL

1. "The Federal Environmental Pesticide Control Act," (reference (n)) also known as FEPCA (Public Law 92-516), did which of the following:

- A. Amended FIFRA
- B. Required pesticides to be classified for general or restricted use
- C. Required any user of restricted use pesticides to be certified either as a private or commercial applicator or be under the supervision of a certified applicator
- D. All of the above

2. An Experimental Use Permit will be effective for a specific period of time, which would normally be:

- A. One month
- B. One year.
- C. Three years
- D. Until the pesticide receives regular EPA registration

3. Section 24(c) of FIFRA, as amended:

- A. Established the Interregional Research Project (IR-4)
- B. Permits registration for minor or specialty crop uses
- C. Permits a State to register pesticides for use in that State to meet special local needs
- D. Established procedures for suspension or cancellation of a registration

4. Bias in experimental or demonstration work:

- A. Is manipulation of a test so that the results do not reflect the effect of the work
- B. Is an inconsistency inherent in an experiment that may prejudice the results
- C. Is a non-replicated test used to demonstrate a desired principle
- D. Is deliberately withholding a treatment from certain plots

5. During the demonstration of a herbicide application, a gust of wind carries the spray onto a neighboring farm resulting in damage to valuable crops. As a certified government employee acting within the scope of your duty and certification, you cannot be held personally liable for negligence.

- A. True
- B. False

CATEGORY 11

AERIAL APPLICATION PEST CONTROL

TIME ALLOWED: 60 minutes for answering the questions (Approximately 50)

1. Deposition spraying is primarily used to kill small flying insects.

- A. True
- B. False

2. The DoD maintains an aerial spray capability primarily to:

- A. Protect military golf courses from Japanese beetles.
- B. Rid military installations of nuisances mosquitoes.
- C. Protect combat troops from vector-borne pathogens.

3. Temperature normally decreases with increasing altitude.

- A. True
- B. False

4. The real swath width is:

- A. The effective swath
- B. The assumed swath
- C. Always less than 50 feet
- D. None of the above

5. An advantage(s) of aerial spray is/are:

- A. Able to treat large areas
- B. It is always readily accepted by the public
- C. Able to treat some areas inaccessible to ground equipment
- D. All of the above
- E. A and C above

APPENDIX C

DoD APPLICATOR CERTIFICATES

1. Page size (DD Form 1826)

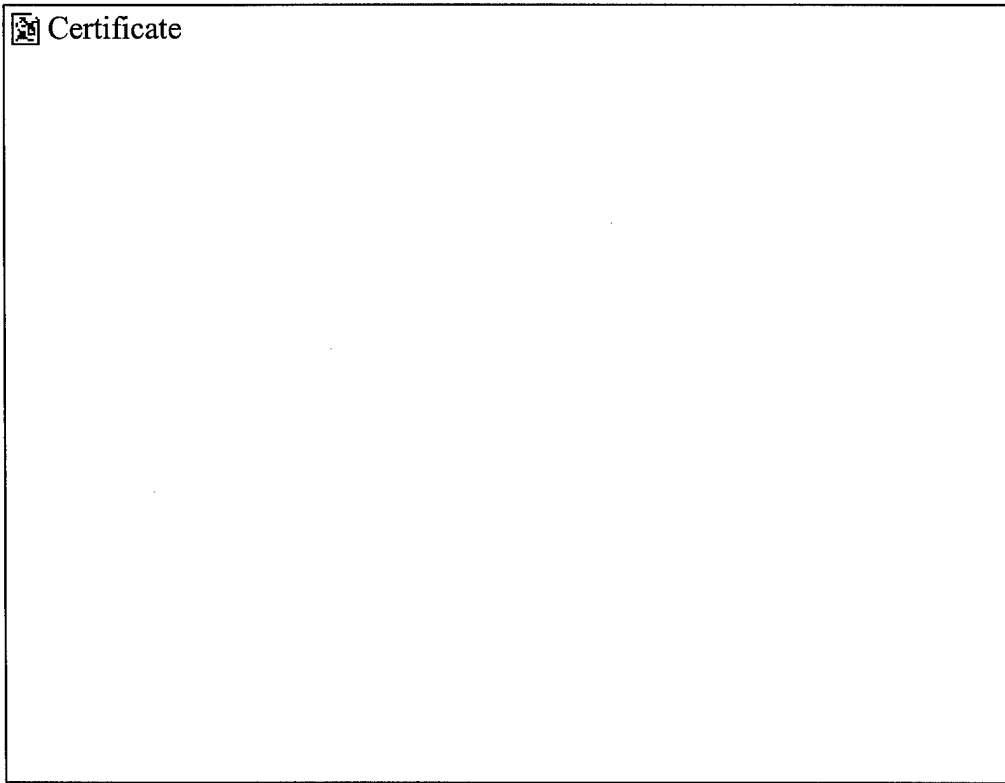


Fig. 1-1

DoD APPLICATOR CERTIFICATES

1. Wallet size (DD Form 1826-1

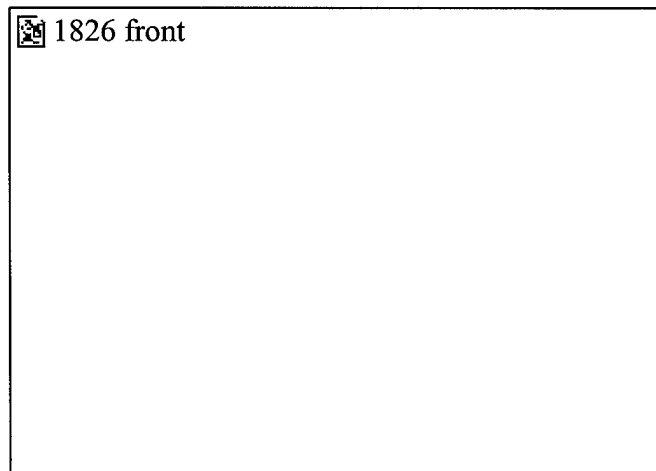


Fig. 1-2

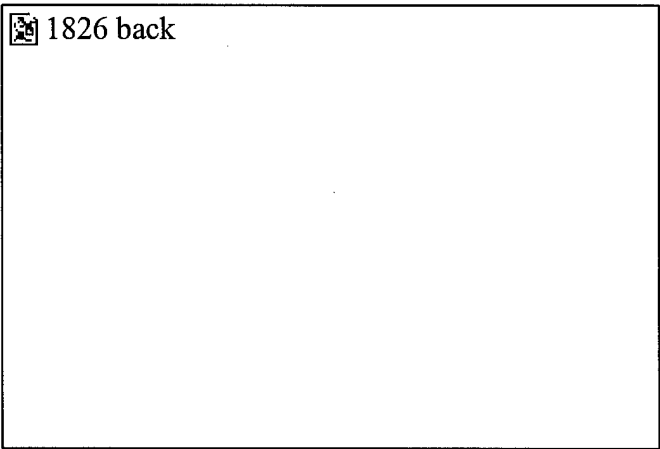


Fig. 1-3

APPENDIX D

MINIMUM CURRICULUM REQUIREMENTS FOR DoD CERTIFICATION

AND RECERTIFICATION TRAINING

MINIMUM CURRICULUM REQUIREMENTS FOR CORE CERTIFICATION TRAINING

<u>TITLE</u>	<u>HOURS REQUIRED</u>
1. Introduction to DoD Integrated Pest Management	0.5
2. Laws, Regulations and Reporting Requirements	5.0
A. Federal Laws Regulating Pesticide Use	
B. DoD Documents	
C. The Label and Labeling	
D. Records and Reports	
3. Pesticide Calculations	6.0

4. Pesticide Safety

9.0

A. Harmful Effects

- (1) To the Applicator
- (2) To the Environment
- (3) Areas of Special Concern
 - a. Groundwater
 - b. Rare and Endangered Species

B. Protecting the Applicator

- (1) Programs for the Protection of Pesticide Applicators
- (2) Personal Protective Equipment (PPE)
- (3) Medical Response to Pesticide Poisoning

C. Protecting the Environment

- (1) Preventing Spills
 - a. Mixing and Loading
 - b. Pesticide Transportation
 - c. Pesticide Storage
- (2) Spill Remediation
- (3) Pesticide Disposal
- (4) Equipment Calibration

D. The Pest Management Shop

5. Introduction to Pests

4.0

6. Integrated Pest Management

9.5

A. Introduction

B. Non-Chemical Methods

(1) Cultural Management and Biological Management

(2) Genetic Management

(3) Regulatory Management

(4) Mechanical and Physical Management

C. Chemical Methods

(1) Attractants

(2) Repellents

(3) Plant Growth Regulators

(4) Pesticides

a. Defining Pesticides

b. Modes of Entry

c. Families of Pesticides

d. Formulations

e. Selecting Pesticides and Formulations: Case Studies

D. Addressing Unsuccessful Pest Management Programs

(1) Reviewing Non-Chemical Elements of the Program

(2) Reviewing Selection and Application of Pesticides

(3) Pesticide Resistance

E. Integrated Pest Management Case Studies

7. Equipment Overview

1.5

8. Administrative Procedures (Reviews, Competency Exams, etc.)

4.5

TOTAL HOURS = 40.0

MINIMUM CURRICULUM REQUIREMENTS FOR COMBINED CERTIFICATION TRAINING IN:
CATEGORY 2, FOREST PEST MANAGEMENT; CATEGORY 3, ORNAMENTAL AND TURF;

CATEGORY 5, AQUATIC; AND CATEGORY 6, RIGHT-OF-WAY PEST MANAGEMENT

<u>TITLE</u>	<u>HOURS REQUIRED</u>
1. Introduction to Non-Chemical Integrated Vegetation Management	1.0
2. Plant Biology and Physiology	1.0
3. Plant Health Maintenance Programs: Ornamental and Turf	3.0
4. Classification, Use and Mode of Action of Herbicides, Fungicides and Nematicides	3.0
5. Health Hazards of Herbicides, Fungicides and Nematicides	1.0
6. Diseases of Turf, Ornamentals, Trees; and Nematode Management	3.0
7. Pests of Turf, Trees and Ornamentals	3.0
8. Aquatic Weeds: Identification and Management	1.5
9. Natural Resources Conservation Program	2.0
10. Pesticide Use Problems	4.0
11. Forest Pest Management	0.5
12. Vegetation Management Equipment	3.0
13. Administrative Procedures (Reviews, Competency Exams, etc.)	6.0
TOTAL HOURS = 32.0	

MINIMUM CURRICULUM REQUIREMENTS FOR CERTIFICATION TRAINING IN: CATEGORY 3a, SOIL FUMIGATION

<u>TITLE</u>	<u>HOURS REQUIRED</u>
Soil Fumigation (In addition to the 32-hour combined category 2,3,5,6 training)	4.0

MINIMUM CURRICULUM REQUIREMENTS FOR CERTIFICATION TRAINING IN: CATEGORY 6a, GRASSLAND AND NON-CROP AGRICULTURAL LAND PEST CONTROL

Topics included in Category 6 Training

MINIMUM CURRICULUM REQUIREMENTS FOR COMBINED CERTIFICATION TRAINING IN:
CATEGORY 7, INDUSTRIAL, INSTITUTIONAL, STRUCTURAL, AND HEALTH-RELATED
PEST MANAGEMENT; AND CATEGORY 8, PUBLIC HEALTH PEST MANAGEMENT

<u>TITLE</u>	<u>HOURS REQUIRED</u>
1. Fleas 2.0	
2. Cockroaches	2.5
3. Stored Products Pests	2.5
4. Ticks and Mites	2.0
5. Flies other than Mosquitoes	3.0
6. Mosquitoes	4.0
7. Venomous Animals	1.0
8. Vertebrate Pests	1.5
9. Rodents	2.0
10. Equipment	12.0
11. Ants	1.0
12. Other Household Pests	0.5
13. Wood Preservation	1.0
14. Other Wood Destroying Organisms	2.0
15. Termites	5.0
16. Administrative Procedures (Reviews, Competency Exams, etc)	6.0
TOTAL HOURS = 48.0	

NOTE: Topics 1-16 are required for Category 7. Only topics 1-12 and 4.0 hours Administrative time are required for Category 8.

MINIMUM CURRICULUM REQUIREMENTS FOR CERTIFICATION TRAINING IN: CATEGORY 7a, STORED PRODUCTS FUMIGATION

<u>TITLE</u>	<u>HOURS REQUIRED</u>
Stored Products Fumigation (In addition to the 48-hour combined category 7 and 8 training)	4.0

MINIMUM CURRICULUM REQUIREMENTS FOR CERTIFICATION TRAINING IN:
CATEGORY 10, RESEARCH AND DEMONSTRATION

<u>TITLE</u>
1. Pesticide Registration
2. Experimental Use Permits
3. Special Local Needs Registration per 40 CFR
4. Emergency Pesticide Registration
5. Cancellation, Suspension, and Special Review
6. Demonstration and Research Procedures

7. Individual Responsibilities and Liabilities

8. Pesticide Regulations

(BY CORRESPONDENCE)

MINIMUM CURRICULUM REQUIREMENTS FOR
CATEGORY 11, AERIAL APPLICATION PEST CONTROL

<u>TITLE</u>	<u>HOURS REQUIRED</u>
1. Introduction.	0.5
2. General Principles of Aerial Spray	3.0
A. Uses of Aerial Spray	
B. Application Rates	
C. Types	
D. Mechanics	
E. Factors Affecting Droplet Dispersal & Distribution	
(1) Drop Size	
(2) Gravity	
(3) Air Movement	
(4) Evaporation	
3. Meteorology	2.0
A. Weather Affects on Aircraft	
B. Weather Affects on Pest Behavior	
C. Weather Affects on Spray Droplets	
(1) Air Movements	
(2) Inversions	
(3) Temperature and Humidity	
D. Field Techniques	
4. Aerial Spray Math	4.0

5. Maps	4.0
A. Types	
B. Preparation	
6. Flying Aerial Spray: A Pilot's View	1.0
7. Public Relations	1.0
8. Swath and Droplet Characterization	5.0
A. Deposition Sprays	
B. Space Sprays	
C. Field Exercise	
9. DoD Spray Systems	2.0
A. C-130 Modular Aerial Spray System (MASS)	
B. Navy Pesticide Aerial Unit (PAU-9)	
C. Army Pesticide Delivery Unit (PDU)	
10. Calibration Lab	2.0
11. Contracts	1.0
12. Pesticides and Pesticide Safety	2.0
A. Choosing a Pesticide for Aerial Use	
B. Types	
C. Adjuvants	
D. Safety Equipment	
E. Spill Containment and Cleanup	
13. Logistics & Contingency Operations	1.5
14. Environmental Aspects of Aerial Spray	1.0
A. Benefits Versus Risks	
B. Minimizing Adverse Impacts	
C. Surveillance	

15. Legal Aspects of Aerial Spray 1.0

A. Aerial Spray Laws and Regulations

B. Validation Procedures

C. Obtaining Spray Services

16. Administrative Duties 3.0

TOTAL HOURS = 34.0

MINIMUM CURRICULUM REQUIREMENTS FOR RECERTIFICATION TRAINING IN: CORE
TITLE

1. Environmental Protection, Integrated Pest Management

2. Pesticide Safety

3. Pesticides

4. Laws, Labels and Labeling

5. Formulations, Calculations and Applications

6. Records

7. Equipment

8. Administrative Procedures (Reviews, Competency Exams, etc.)

TOTAL HOURS = 9.0

MINIMUM CURRICULUM REQUIREMENTS FOR RECERTIFICATION TRAINING IN:
CATEGORIES 2,3,5,6 (COMBINED)

TITLE

1. Plant and Turf Diseases

2. Insect Pests of Plants

3. Vegetation Management (Weeds and Aquatics)

4. Seminar/Problems, Discussion

5. Soil Fumigation

6. Administrative Procedures (Reviews, Competency Exams, etc.)

TOTAL HOURS = 9.0

MINIMUM CURRICULUM REQUIREMENTS FOR RECERTIFICATION IN:

CATEGORY 3a, SOIL FUMIGATION

Topics 1-5 are required for Category 3a Recertification

MINIMUM CURRICULUM REQUIREMENTS FOR RECERTIFICATION IN:

CATEGORY a, GRASSLAND AND NON-CROP AGRICULTURAL PEST CONTROL

Topics 1-4 are required for Category a Recertification

MINIMUM CURRICULUM REQUIREMENTS FOR RECERTIFICATION TRAINING IN:

CATEGORIES 7 AND 8 (COMBINED)

TITLE

1. Household Pests
2. Stored Products Pests
3. Ticks and Mites
4. Mosquitoes
5. Flies other than Mosquitoes
6. Venomous Organisms
7. Rodents
8. Other Vertebrates
9. Termites
10. Other Wood Destroying Organisms
11. Wood Preservation
12. Stored Products Fumigation
13. Administrative Procedures (Reviews, Competency Exams, etc.)

TOTAL HOURS = 9.0

NOTE: Topics 1-11 and 13 are required for Category 7 Recertification.

Topics 1-13 are required for Category 7a Recertification.

Topics 1-8 and 13 are required for Category 8 Recertification.

MINIMUM CURRICULUM REQUIREMENTS FOR RECERTIFICATION IN
CATEGORY 10, DEMONSTRATION AND RESEARCH PEST CONTROL

Recertification may be accomplished by:

- A. Employment in a position involving research and/or demonstration, or
- B. Participation (to include instruction) at a regular DoD recertification training course meeting all of the requirements for category recertification; or
- C. By passing a written examination for the core, Research and Demonstration, and appropriate categories. Individuals whose employment precludes their being recertified under A and B above shall forward a letter of request to the Executive Director, AFPMB and state the reasons for request for recertification by examination. Upon determination of eligibility, the Executive Director will request the appropriate training center to forward examination materials to the individual.

MINIMUM CURRICULUM REQUIREMENTS FOR RECERTIFICATION IN:
CATEGORY 11, AERIAL APPLICATION PEST CONTROL

TITLE

- 1. General Principles Review
- 2 Meteorology
- 3. Aerial Spray Math
- 4. Maps
- 5. Swath & Droplet Characterization
- 6. DoD Spray Systems
- 7. Aerial Spray Pesticides
- 8. Logistics & Contingency Operations
- 9. Environmental Aspects of Aerial Spray
- 10. Legal Aspects of Aerial Spray
- 11. Contracts

TOTAL HOURS = 24.0

APPENDIX E

PROCEDURES FOR ISSUING DoD CERTIFICATES FOR PESTICIDES APPLICATORS

1. Installation civilian and military applicator personnel, who successfully pass the core and one or more of the pest control categories, shall be issued a DoD Certificate of Competency by the appropriate major certifying official. Where individuals have completed initial formal training at one of the training centers, the officer in charge of the training center will provide an identification number for the certificate. To identify certified personnel, a numbering system shall be used in the issue of either certificate (DD Form 1826, 8 2" X 11" or DD Form 1826-1, wallet size). Examples are provided in Appendix C.
2. Certificate numbers shall contain three or four elements, as follows:
 - a. The first, consisting of one or two letters, is a designation of where the individual was originally trained. The designations are as follows:
 - A - U S Army AMEDD Center and School, Fort Sam Houston, TX
 - AF - 366 Training Squadron , Sheppard AFB, Wichita Falls, TX
 - NJ - Navy Disease Vector Ecology and Control Center, Jacksonville, FL
 - NB - Navy Disease Vector Ecology and Control Center, Poulsbo, WA
 - AA - 910 AG/DOS, Aerial Spray, Youngstown-Warren Regional Airport, Air Reserve Station, Vienna, OH (Aerial Application Only)
 - b. The second element is a sequential three-digit number assigned by the initial training center.
 - c. The third is a two-digit number indicating the calendar year in which initial certification was received.
 - d. The fourth element is a four-digit number indicating the month and calendar year of current recertification. This element is not required on certificates for pesticide applicators during their first three years of DoD certification. As an example, the certificate number A-001-77-0179 indicates that the certificate holder was initially certified at the Army school at Fort Sam Houston, TX; was the first person certified by that center in 1977; and was recertified in January 1979.
3. Categories of certification shall be indicated on each certificate. On the DD Form 1826, the pest control certification categories will be listed. On the DD Form 1826-1, the wallet certificate, invalid categories shall be lined out before issue. Where facilities are available, it is desirable to laminate the wallet certificates after completion.
4. Wallet-size certificates (DD Form 1826-1) shall be issued bearing the same information as the full-size certificates (DD Form 1826). Certified individuals shall carry these cards while in the performance of their duties.
5. Certificate numbers vacated by revocation, resignation, or for any other reasons shall not be reissued.
6. Certificates shall bear the name of the individual without any additional titles, except for supervisors. In situations where it is desirable to identify the certified individual as a pest control inspector, or planner-estimator, a standard recognition form shall be used.
7. Certificates will expire three years from the last day of the month in which the certificate is issued. The certifying official may extend an individual's certification for cause; e.g., illness, family emergency, unscheduled military deployment, on a one time basis for a period of not more than six months.

8. A current list of certifying officials shall be maintained by the AFPMB.

APPENDIX F

PESTICIDE CERTIFICATION TRAINING AGREEMENTS